



SEQUENCE LISTING

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Stratowa, Christian

<120> TNF Receptors, TNF Binding Proteins and DNAs Coding for
Them

<130> 98-385-E

<140> 09/525,998

<141> 2000-03-15

<150> 08/383,676

<151> 1995-02-01

<150> 08/153,287

<151> 1993-11-17

<150> 07/821,750

<151> 1993-01-02

<150> 07/511,430

<151> 1990-04-20

<160> 97

<170> PatentIn Ver. 2.0

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<222> (1)..(87)

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<221> misc_feature

<222> (88)..(120)

<223> portion of TNF-BP pro protein cleaved by
extracellular proteases following secretion

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<221> misc_feature

<222> (606)..(633)

<223> portion of TNF-BP pro protein cleaved by
extracellular proteases following secretion

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Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro	
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cac cta ggg gac agg gag aag aga gat agt gtg tgt ccc caa gga aaa	144
His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys	
35 40 45	
tat atc cac cct caa aat aat tcg att tgc tgt acc aag tgc cac aaa	192
Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys	
50 55 60	
gga acc tac ttg tac aat gac tgt cca ggc ccg ggg cag gat acg gac	240
Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gln Asp Thr Asp	
65 70 75 80	
tgc agg gag tgt gag agc ggc tcc ttc acc gct tca gaa aac cac ctc	288
Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu	
85 90 95	
aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa atg ggt cag gtg	336
Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val	
100 105 110	
gag atc tct tct tgc aca gtg gac cgg gac acc gtg tgt ggc tgc agg	384
Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg	
115 120 125	
aag aac cag tac cgg cat tat tgg agt gaa aac ctt ttc cag tgc ttc	432
Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe	
130 135 140	
aat tgc agc ctc tgc ctc aat ggg acc gtg cac ctc tcc tgc cag gag	480
Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu	
145 150 155 160	
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Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu	
165 170 175	
aac gag tgt gtc tcc tgt agt aac tgt aag aaa agc ctg gag tgc acg	576
Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Ser Leu Glu Cys Thr	
180 185 190	
aag ttg tgc cta ccc cag att gag aat gtt aag ggc act gag gac tca	624
Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser	
195 200 205	
ggc acc aca gtg ctg ttg ccc ctg gtc att ttc ttt ggt ctt tgc ctt	672
Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu	
210 215 220	
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Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu			
245	250	255	
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Gly Glu Leu Glu Gly Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser			
260	265	270	
ttc agt ccc act cca ggc ttc acc ccc acc ctg ggc ttc agt ccc gtg			864
Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val			
275	280	285	
ccc agt tcc acc ttc acc tcc agc tcc acc tat acc ccc ggt gac tgt			912
Pro Ser Ser Thr Phe Thr Ser Ser Thr Tyr Thr Pro Gly Asp Cys			
290	295	300	
ccc aac ttt gcg gct ccc cgc aga gag gtg gca cca ccc tat cag ggg			960
Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly			
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gct gac ccc atc ctt gcg aca gcc ctc gcc tcc gac ccc atc ccc aac			1008
Ala Asp Pro Ile Leu Ala Thr Ala Leu Ser Asp Pro Ile Pro Asn			
325	330	335	
ccc ctt cag aag tgg gag gac agc gcc cac aag cca cag agc cta gac			1056
Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp			
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Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro			
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370	375	380	
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Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln			
385	390	395	400
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Tyr Ser Met Leu Ala Thr Trp Arg Arg Thr Pro Arg Arg Glu Ala			
405	410	415	
acg ctg gag ctg gga cgc gtg ctc cgc gac atg gac ctg ctg ggc			1296
Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly			
420	425	430	
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Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro			
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455

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 His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys
 35 40 45
 Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
 50 55 60
 Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp
 65 70 75 80
 Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
 85 90 95
 Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val
 100 105 110
 Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
 115 120 125
 Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
 130 135 140
 Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
 145 150 155 160
 Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
 165 170 175
 Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
 180 185 190
 Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser
 195 200 205
 Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu
 210 215 220
 Leu Ser Leu Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys
 225 230 235 240
 Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu
 245 250 255

Gly Glu Leu Glu Gly Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser
260 265 270

Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val
275 280 285

Pro Ser Ser Thr Phe Thr Ser Ser Ser Thr Tyr Thr Pro Gly Asp Cys
290 295 300

Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly
305 310 315 320

Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn
325 330 335

Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp
340 345 350

Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro
355 360 365

Leu Arg Trp Lys Glu Phe Val Arg Arg Leu Gly Leu Ser Asp His Glu
370 375 380

Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln
385 390 395 400

Tyr Ser Met Leu Ala Thr Trp Arg Arg Arg Thr Pro Arg Arg Glu Ala
405 410 415

Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly
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Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro
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Pro Ala Pro Ser Leu Leu Arg
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Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys
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Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Ser Gly Ser																																																																			
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Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys																																																																			
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Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp																																																																			
65	70		75		80	cgg gac acc gtg tgt ggc tgc agg aag aac cag tac cgg cat tat tgg	288	Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp		85	90		95	agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat ggg	336	Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly		100	105		110	acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc tgc	384	Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys		115	120		125	cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt aac	432	His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn		130	135		140	tgt aag aaa agc ctg gag tgc acg aag ttg tgc cta ccc cag att gag	480	Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu		145	150		155		160	aat	483	Asn																	
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Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp																																																																			
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	10		15	Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys		20	25		30	Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser		35	40		45	Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys		50	55		60	Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp		65	70		75		80		
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Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys																															
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	75		80																												
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Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly
100 105 110

Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys
115 120 125

His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn
130 135 140

Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu
145 150 155 160

Asn

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TNF-BP sequence

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Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp
20 25 30

tgt cca ggc ccg ggg cag gat acg gac tgc agg gag tgt gag agc ggc 144
Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly
35 40 45

tcc ttc acc gct tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc 192
Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser
50 55 60

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Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val
65 70 75 80

gac cgg gac acc gtg tgt ggc tgc agg aag aac cag tac cgg cat tat 288
Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr
85 90 95

tgg agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat 336
Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn
100 105 110

ggg acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc 384
Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr
115 120 125

tgc cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt 432
Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser
130 135 140

aac tgt aag aaa agc ctg gag tgc acg aag ttg tgc cta ccc cag att 480
Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile
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35 40 45

Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser
50 55 60

Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val
65 70 75 80

Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr
85 90 95

Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn
100 105 110

Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr
115 120 125

Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser
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Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile
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Glu Asn

<210> 7
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TNF-BP sequence

<220>
<221> CDS
<222> (1) .. (633)

<400> 7
atg ggc ctc tcc acc gtc cct gac ctg ctg cca ctg gtc ctc ctg 48
Met Gly Leu Ser Thr Val Pro Asp Leu Leu Pro Leu Val Leu
1 5 10 15

gag ctg ttg gtc gga ata tac ccc tca ggg gtt att gga ctg gtc cct 96
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro
20 25 30

cac cta ggg gac agg gag aag aga gat agt gtc tgt ccc caa gga aaa 144
His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys
35 40 45

tat atc cac cct caa aat aat tcg att tgc tgt acc aag tgc cac aaa 192
Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
50 55 60

gga acc tac ttg tac aat gac tgt cca ggc ccg ggg cag gat acg gac 240
Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gln Asp Thr Asp
65 70 75 80

tgc agg gag tgt gag agc ggc tcc ttc acc gct tca gaa aac cac ctc 288
Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
85 90 95

aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa atg ggt cag gtc 336
Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val
100 105 110

gag atc tct tct tgc aca gtc gac cgg gac acc gtc tgt ggc tgc agg 384
Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
115 120 125

aag aac cag tac cgg cat tat tgg agt gaa aac ctt ttc cag tgc ttc 432
Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
130 135 140

aat tgc agc ctc tgc ctc aat ggg acc gtg cac ctc tcc tgc cag gag	480
Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu	
145 150 155 160	
aaa cag aac acc gtg tgc acc tgc cat gca ggt ttc ttt cta aga gaa	528
Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu	
165 170 175	
aac gag tgt gtc tcc tgt agt aac tgt aag aaa agc ctg gag tgc acg	576
Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr	
180 185 190	
aag ttg tgc cta ccc cag att gag aat gtt aag ggc act gag gac tca	624
Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser	
195 200 205	
ggc acc aca	633
Gly Thr Thr	
210	

<210> 8
 <211> 211
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: recombinant
 TNF-BP sequence

<400> 8	
Met Gly Leu Ser Thr Val Pro Asp Leu Leu Pro Leu Val Leu Leu	
1 5 10 15	
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro	
20 25 30	
His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys	
35 40 45	
Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys	
50 55 60	
Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp	
65 70 75 80	
Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu	
85 90 95	
Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val	
100 105 110	
Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg	
115 120 125	
Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe	

130	135	140	
Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu			
145	150	155	160
Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu			
165	170	175	
Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr			
180	185	190	
Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser			
195	200	205	
Gly Thr Thr			
210			
<210> 9			
<211> 549			
<212> DNA			
<213> Artificial Sequence			
<220>			
<223> Description of Artificial Sequence: recombinant			
TNF-BP sequence			
<220>			
<221> CDS			
<222> (1)..(549)			
<400> 9			
atg ctg gtc cct cac cta ggg gac agg gag aag aga gat agt gtg tgt 48			
Met Leu Val Pro His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys			
1	5	10	15
ccc caa gga aaa tat atc cac cct caa aat aat tcg att tgc tgt acc 96			
Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr			
20	25	30	
aag tgc cac aaa gga acc tac ttg tac aat gac tgt cca ggc ccg ggg 144			
Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly			
35	40	45	
cag gat acg gac tgc agg gag tgt gag agc ggc tcc ttc acc gct tca 192			
Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser			
50	55	60	
gaa aac cac ctc aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa 240			
Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu			
65	70	75	80
atg ggt cag gtg gag atc tct tct tgc aca gtg gac cgg gac acc gtg 288			
Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val			
85	90	95	
tgt ggc tgc agg aag aac cag tac cgg cat tat tgg agt gaa aac ctt 336			

Cys	Gly	Cys	Arg	Lys	Asn	Gln	Tyr	Arg	His	Tyr	Trp	Ser	Glu	Asn	Leu	
100							105							110		
ttc cag tgc ttc aat tgc agc ctc tgc ctc aat ggg acc gtc cac ctc															384	
Phe	Gln	Cys	Phe	Asn	Cys	Ser	Leu	Cys	Leu	Asn	Gly	Thr	Val	His	Leu	
115							120						125			
tcc tgc cag gag aaa cag aac acc gtc acc tgc cat gca ggt ttc															432	
Ser	Cys	Gln	Glu	Lys	Gln	Asn	Thr	Val	Cys	Thr	Cys	His	Ala	Gly	Phe	
130							135					140				
ttt cta aga gaa aac gag tgt gtc tcc tgt agt aac tgt aag aaa agc															480	
Phe	Leu	Arg	Glu	Asn	Glu	Cys	Val	Ser	Cys	Ser	Asn	Cys	Lys	Ser		
145							150				155		160			
ctg gag tgc acg aag ttg tgc cta ccc cag att gag aat gtt aag ggc															528	
Leu	Glu	Cys	Thr	Lys	Leu	Cys	Leu	Pro	Gln	Ile	Glu	Asn	Val	Lys	Gly	
165							170					175				
act gag gac tca ggc acc aca															549	
Thr	Glu	Asp	Ser	Gly	Thr	Thr										
180																

<210> 10
 <211> 183
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: recombinant
 TNF-BP sequence

<400> 10															
Met	Leu	Val	Pro	His	Leu	Gly	Asp	Arg	Glu	Lys	Arg	Asp	Ser	Val	Cys
1							5			10			15		
Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr															
							20			25			30		
Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly															
							35			40			45		
Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser															
							50			55			60		
Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu															
							65			70			75		80
Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val															
							85			90			95		
Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu															
							100			105			110		
Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu															
							115			120			125		

Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe
130 135 140

Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser
145 150 155 160

Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly
165 170 175

Thr Glu Asp Ser Gly Thr Thr
180

<210> 11

<211> 600

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant
TNF-BP sequence

<220>

<221> CDS

<222> (1)..(600)

<400> 11

atg ggc ctc tcc acc gtg cct gac ctg ctg cca ctg gtg ctc ctg 48
Met Gly Leu Ser Thr Val Pro Asp Leu Leu Pro Leu Val Leu Leu
1 5 10 15

gag ctg ttg gtg gga ata tac ccc tca ggg gtt att gga gat agt gtg 96
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Asp Ser Val
20 25 30

tgt ccc caa gga aaa tat atc cac cct caa aat aat tcg att tgc tgt 144
Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys
35 40 45

acc aag tgc cac aaa gga acc tac ttg tac aat gac tgt cca ggc ccg 192
Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro
50 55 60

ggg cag gat acg gac tgc agg gag tgt gag agc ggc tcc ttc acc gct 240
Gly Gln Asp Thr Asp Cys Arg Glu Cys Ser Gly Ser Phe Thr Ala
65 70 75 80

tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc aaa tgc cga aag 288
Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys
85 90 95

gaa atg ggt cag gtg gag atc tct tct tgc aca gtg gac cgg gac acc 336
Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr
100 105 110

gtg tgt ggc tgc agg aag aac cag tac cgg cat tat tgg agt gaa aac 384

Val	Cys	Gly	Cys	Arg	Lys	Asn	Gln	Tyr	Arg	His	Tyr	Trp	Ser	Glu	Asn	
115																125
ctt	tgc	cag	tgc	ttc	aat	tgc	agc	ctc	tgc	ctc	aat	ggg	acc	gtg	cac	432
Leu	Phe	Gln	Cys	Phe	Asn	Cys	Ser	Leu	Cys	Leu	Asn	Gly	Thr	Val	His	
130															140	
ctc	tcc	tgc	cag	gag	aaa	cag	aac	acc	gtg	tgc	acc	tgc	cat	gca	ggt	480
Leu	Ser	Cys	Gln	Glu	Lys	Gln	Asn	Thr	Val	Cys	Thr	Cys	His	Ala	Gly	
145															160	
ttc	ttt	cta	aga	gaa	aac	gag	tgt	gtc	tcc	tgt	agt	aac	tgt	aag	aaa	528
Phe	Phe	Leu	Arg	Glu	Asn	Glu	Cys	Val	Ser	Cys	Ser	Asn	Cys	Lys	Lys	
165															175	
agc	ctg	gag	tgc	acg	aag	ttg	tgc	cta	ccc	cag	att	gag	aat	gtt	aag	576
Ser	Leu	Glu	Cys	Thr	Lys	Leu	Cys	Leu	Pro	Gln	Ile	Glu	Asn	Val	Lys	
180															190	
ggc	act	gag	gac	tca	ggc	acc	aca									600
Gly	Thr	Glu	Asp	Ser	Gly	Thr	Thr									
195															200	

<210> 12
 <211> 200
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: recombinant
 TNF-BP sequence

<400> 12
 Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu
 1 5 10 15

Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Asp Ser Val
 20 25 30

Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys
 35 40 45

Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro
 50 55 60

Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala
 65 70 75 80

Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys
 85 90 95

Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr
 100 105 110

Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn
 115 120 125

Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His
130 135 140

Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly
145 150 155 160

Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys
165 170 175

Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys
180 185 190

Gly Thr Glu Asp Ser Gly Thr Thr
195 200

<210> 13

<211> 603

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant
TNF-BP sequence

<220>

<221> CDS

<222> (1)..(603)

<400> 13

atg ggc ctc tcc acc gtg cct gac ctg ctg cca ctg gtg ctc ctg 48
Met Gly Leu Ser Thr Val Pro Asp Leu Leu Pro Leu Val Leu Leu
1 5 10 15

gag ctg ttg gtg gga ata tac ccc tca ggg gtt att gga ctg gtc cct 96
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro
20 25 30

cac cta ggg gac agg gag aag aga gat agt gtg tgt ccc caa gga aaa 144
His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys
35 40 45

tat atc cac cct caa aat aat tcg att tgc tgt acc aag tgc cac aaa 192
Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
50 55 60

gga acc tac ttg tac aat gac tgt cca ggc ccg ggg cag gat acg gac 240
Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gln Asp Thr Asp
65 70 75 80

tgc agg gag tgt gag agc ggc tcc ttc acc gct tca gaa aac cac ctc 288
Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
85 90 95

aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa atg ggt cag gtg 336
Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val

100	105	110	
gag atc tct tct tgc aca gtg gac cg ^g gac acc gtg tgt ggc tgc agg			384
Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg			
115	120	125	
aag aac cag tac cg ^g cat tat tgg agt gaa aac ctt ttc cag tgc ttc			432
Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe			
130	135	140	
aat tgc agc ctc tgc ctc aat ggg acc gtg cac ctc tcc tgc cag gag			480
Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu			
145	150	155	160
aaa cag aac acc gtg tgc acc tgc cat gca ggt ttc ttt cta aga gaa			528
Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu			
165	170	175	
aac gag tgt gtc tcc tgt agt aac tgt aag aaa agc ctg gag tgc acg			576
Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr			
180	185	190	
aag ttg tgc cta ccc cag att gag aat			603
Lys Leu Cys Leu Pro Gln Ile Glu Asn			
195	200		
<210> 14			
<211> 201			
<212> PRT			
<213> Artificial Sequence			
<220>			
<223> Description of Artificial Sequence: recombinant			
TNF-BP sequence			
<400> 14			
Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu			
1	5	10	15
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro			
20	25	30	
His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys			
35	40	45	
Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys			
50	55	60	
Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp			
65	70	75	80
Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu			
85	90	95	
Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val			
100	105	110	

Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
115 120 125

Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
130 135 140

Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
145 150 155 160

Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
165 170 175

Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
180 185 190

Lys Leu Cys Leu Pro Gln Ile Glu Asn
195 200

<210> 15

<211> 519

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant
TNF-BP sequence

<220>

<221> CDS

<222> (1)..(519)

<400> 15

atg ctg gtc cct cac cta ggg gac agg gag aag aga gat agt gtg tgt 48
Met Leu Val Pro His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys
1 5 10 15

ccc caa gga aaa tat atc cac cct caa aat aat tcg att tgc tgt acc 96
Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Ser Ile Cys Cys Thr
20 25 30

aag tgc cac aaa gga acc tac ttg tac aat gac tgt cca ggc ccg ggg 144
Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly
35 40 45

cag gat acg gac tgc agg gag tgt gag agc ggc tcc ttc acc gct tca 192
Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser
50 55 60

gaa aac cac ctc aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa 240
Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu
65 70 75 80

atg ggt cag gtg gag atc tct tct tgc aca gtg gac cgg gac acc gtg 288
Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val
85 90 95

tgt ggc tgc agg aag aac cag tac cgg cat tat tgg agt gaa aac ctt 336
Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu
100 105 110

ttc cag tgc ttc aat tgc agc ctc tgc ctc aat ggg acc gtg cac ctc 384
Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu
115 120 125

tcc tgc cag gag aaa cag aac acc gtg tgc acc tgc cat gca ggt ttc 432
Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe
130 135 140

ttt cta aga gaa aac gag tgt gtc tcc tgt agt aac tgt aag aaa agc 480
Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser
145 150 155 160

ctg gag tgc acg aag ttg tgc cta ccc cag att gag aat 519
Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn
165 170

<210> 16
<211> 173
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: recombinant
TNF-BP sequence

<400> 16
Met Leu Val Pro His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys
1 5 10 15

Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr
20 25 30

Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly
35 40 45

Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser
50 55 60

Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu
65 70 75 80

Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val
85 90 95

Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu
100 105 110

Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu
115 120 125

Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe

130

135

140

Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser
145 150 155 160

Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn
165 170

<210> 17
<211> 570
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: recombinant
TNF-BP sequence

<220>
<221> CDS
<222> (1)..(570)

<400> 17
atg ggc ctc tcc acc gtg cct gac ctg ctg cca ctg gtc ctc ctg 48
Met Gly Leu Ser Thr Val Pro Asp Leu Leu Pro Leu Val Leu Leu
1 5 10 15

gag ctg ttg gtg gga ata tac ccc tca ggg gtt att gga gat agt gtg 96
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Asp Ser Val
20 25 30

tgt ccc caa gga aaa tat atc cac cct caa aat aat tcg att tgc tgt 144
Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys
35 40 45

acc aag tgc cac aaa gga acc tac ttg tac aat gac tgt cca ggc ccg 192
Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro
50 55 60

ggg cag gat acg gac tgc agg gag tgt gag agc ggc tcc ttc acc gct 240
Gly Gln Asp Thr Asp Cys Arg Glu Cys Ser Gly Ser Phe Thr Ala
65 70 75 80

tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc aaa tgc cga aag 288
Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys
85 90 95

gaa atg ggt cag gtg gag atc tct tgc aca gtg gac cgg gac acc 336
Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr
100 105 110

gtg tgt ggc tgc agg aag aac cag tac cgg cat tat tgg agt gaa aac 384
Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn
115 120 125

ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat ggg acc gtg cac 432
Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His

130	135	140	
ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc tgc cat gca ggt Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly			480
145	150	155	160
ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt aac tgt aag aaa Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys			528
165	170	175	
agc ctg gag tgc acg aag ttg tgc cta ccc cag att gag aat Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn			570
180	185	190	
<210> 18			
<211> 190			
<212> PRT			
<213> Artificial Sequence			
<220>			
<223> Description of Artificial Sequence: recombinant TNF-BP sequence			
<400> 18			
Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu			
1	5	10	15
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Asp Ser Val			
20	25	30	
Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys			
35	40	45	
Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro			
50	55	60	
Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala			
65	70	75	80
Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys			
85	90	95	
Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr			
100	105	110	
Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn			
115	120	125	
Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His			
130	135	140	
Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly			
145	150	155	160
Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys			
165	170	175	

Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn
180 185 190

<210> 19
<211> 516
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: recombinant
TNF-BP sequence

<220>
<221> CDS
<222> (1)..(516)

<400> 19
atg gat agt gtg tgt ccc caa gga aaa tat atc cac cct caa aat aat 48
Met Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn
1 5 10 15

tcg att tgc tgt acc aag tgc cac aaa gga acc tac ttg tac aat gac 96
Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp
20 25 30

tgt cca ggc ccg ggg cag gat acg gac tgc agg gag tgt gag agc ggc 144
Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly
35 40 45

tcc ttc acc gct tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc 192
Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser
50 55 60

aaa tgc cga aag gaa atg ggt cag gtg gag atc tct tct tgc aca gtg 240
Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val
65 70 75 80

gac cgg gac acc gtg tgt ggc tgc agg aag aac cag tac cgg cat tat 288
Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr
85 90 95

tgg agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat 336
Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn
100 105 110

ggg acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc 384
Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr
115 120 125

tgc cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt 432
Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser
130 135 140

aac tgt aag aaa agc ctg gag tgc acg aag ttg tgc cta ccc cag att 480
Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile

145

150

155

160

gag aat gtt aag ggc act gag gac tca ggc acc aca
Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr
165 170

516

<210> 20
<211> 172
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: recombinant
TNF-BP sequence

<400> 20

Met Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn
1 5 10 15

Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp
20 25 30

Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly
35 40 45

Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser
50 55 60

Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val
65 70 75 80

Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr
85 90 95

Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn
100 105 110

Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr
115 120 125

Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser
130 135 140

Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile
145 150 155 160

Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr
165 170

<210> 21
<211> 1334
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: cDNA insert of
lambdaTNF-BP15 and pTNF-BP15 vectors

<220>

<221> CDS

<222> (213) .. (1325)

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ctggacagac cgagtcccgag gaagccccag cactggcgt gcccacactgc cctgagccca 180
aatgggcgag tgagaggcca tagctgtctg gc atg ggc ctc tcc acc gtg cct 233
Met Gly Leu Ser Thr Val Pro
1 5
gac ctg ctg ctg cca ctg gtg ttc ctg gag ctg ttg gtg gga ata tac 281
Asp Leu Leu Leu Pro Leu Val Phe Leu Glu Leu Leu Val Gly Ile Tyr
10 15 20
ccc tca ggg gtt att gga ctg gtc cct cac cta ggg gac agg gag aag 329
Pro Ser Gly Val Ile Gly Leu Val Pro His Leu Gly Asp Arg Glu Lys
25 30 35
aga gat agt gtg tgt ccc caa gga aaa tat atc cac cct caa aat aat 377
Arg Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn
40 45 50 55
tcg att tgc tgt acc aag tgc cac aaa gga acc tac ttg tac aat gac 425
Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp
60 65 70
tgt cca ggc ccg ggg cag gat acg gac tgc agg gag tgt gag agc ggc 473
Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly
75 80 85
tcc ttc acc gct tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc 521
Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser
90 95 100
aaa tgc cga aag gaa atc ggt cag gtg gag atc tct tct tgc aca gtg 569
Lys Cys Arg Lys Glu Ile Gly Gln Val Glu Ile Ser Ser Cys Thr Val
105 110 115
gac cgg gac acc gtg tgc agg aag aac cag tac cgg cat tat 617
Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr
120 125 130 135
tgg agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat 665
Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn
140 145 150
ggg acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc 713
Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr
155 160 165

tgc cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt	761
Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser	
170 175 180	
aac tgt aag aaa agc ctg gag tgc agg aag ttg tgc cta ccc cag att	809
Asn Cys Lys Lys Ser Leu Glu Cys Arg Lys Leu Cys Leu Pro Gln Ile	
185 190 195	
gag aat gtt aag ggc act gag gac tca ggc acc aca gtg ctg ttg ccc	857
Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr Val Leu Leu Pro	
200 205 210 215	
ctg gtc att ttc ttt ggt ctt tgc ctt tta tcc ctc ctc ttc att ggt	905
Leu Val Ile Phe Phe Gly Leu Cys Leu Ser Leu Leu Phe Ile Gly	
220 225 230	
tta atg tat cgc tac caa cgg tgg aag tcc aag ctc tac tcc att gtt	953
Leu Met Tyr Arg Tyr Gln Arg Trp Lys Ser Lys Leu Tyr Ser Ile Val	
235 240 245	
tgt ggg aaa tcg aca cct gaa aaa gag ggg gag ctt gaa gga act act	1001
Cys Gly Lys Ser Thr Pro Glu Lys Glu Gly Glu Leu Glu Gly Thr Thr	
250 255 260	
act aag ccc ctg gcc cca aac cca agc ttc agt ccc act cca ggc ttc	1049
Thr Lys Pro Leu Ala Pro Asn Pro Ser Phe Ser Pro Thr Pro Gly Phe	
265 270 275	
acc ccc acc ctg ggc ttc agt ccc gtg ccc agt tcc acc ttc acc tcc	1097
Thr Pro Thr Leu Gly Phe Ser Pro Val Pro Ser Ser Thr Phe Thr Ser	
280 285 290 295	
agc tcc acc tat acc ccc ggt gac tgt ccc aac ttt gcg gct ccc cgc	1145
Ser Ser Thr Tyr Thr Pro Gly Asp Cys Pro Asn Phe Ala Ala Pro Arg	
300 305 310	
aga gag gtg gca cca ccc tat cag ggg gct gac ccc atc ctt gcg aca	1193
Arg Glu Val Ala Pro Pro Tyr Gln Gly Ala Asp Pro Ile Leu Ala Thr	
315 320 325	
gcc ctc gcc tcc gac ccc atc ccc aac ccc ctt cag aag tgg gag gac	1241
Ala Leu Ala Ser Asp Pro Ile Pro Asn Pro Leu Gln Lys Trp Glu Asp	
330 335 340	
agc gcc cac aag cca cag agc cta gac act gat gac ccc gcg acg ctg	1289
Ser Ala His Lys Pro Gln Ser Leu Asp Thr Asp Asp Pro Ala Thr Leu	
345 350 355	
tac gcc gtg gtg gag aac gtg ccc ccg ttg cgc tgg aaggaattc	1334
Tyr Ala Val Val Glu Asn Val Pro Pro Leu Arg Trp	
360 365 370	

<210> 22
<211> 371
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: cDNA insert of
lambdaTNF-BP15 and pTNF-BP15 vectors

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His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys
35 40 45

Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
50 55 60

Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp
65 70 75 80

Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
85 90 95

Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Ile Gly Gln Val
100 105 110

Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
115 120 125

Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
130 135 140

Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
145 150 155 160

Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
165 170 175

Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Arg
180 185 190

Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser
195 200 205

Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu
210 215 220

Leu Ser Leu Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys
225 230 235 240

Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu
245 250 255

Gly Glu Leu Glu Gly Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser
260 265 270

Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val
275 280 285

Pro Ser Ser Thr Phe Thr Ser Ser Ser Thr Tyr Thr Pro Gly Asp Cys
290 295 300

Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly
305 310 315 320

Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn
325 330 335

Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp
340 345 350

Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro
355 360 365

Leu Arg Trp
370

<210> 23
<211> 6414
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pADCMV1 vector

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<223> "n" can be a, g, c, or t

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<222> (6255)
<223> "n" can be a, g, c, or t

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caacgacccc cgcccatattga cgtcaataat gacgtatgtt cccatagtaa cgccaatagg 180

gactttccat tgacgtcaat gggggagta tttacggtaa actgcccact tggcagtaca 240
tcaagtgtat catatccaa gtacgcccc tattgacgtc aatgacggta aatggccgc 300
ctggcattat gcccagttaca tgaccttatg ggacttcct actnggcagt acatctacgt 360
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aatggcggt aggcgtgtac ggtggaggt ctatataagc agagctctct ggctaactag 600
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<211> 2173
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: raTNF-R8

<220>
<221> CDS
<222> (245)..(1627)

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gggctcacgc tgccaaacacc cggggccaccc ggtccgatcg tcttacttca ttcaccagcg 180

ttgcccaattg ctgccctgtc cccagccccca atgggggagt gagagaggcc actgccggcc 240
 ggac atg ggt ctc ccc atc gtg cct ggc ctg ctg tca ctg gtg ctc 289
 Met Gly Leu Pro Ile Val Pro Gly Leu Leu Leu Ser Leu Val Leu
 1 5 10 15
 ctg gct ctg ctg atg ggg ata cac cca tca ggg gtc acc gga ctg gtt 337
 Leu Ala Leu Leu Met Gly Ile His Pro Ser Gly Val Thr Gly Leu Val
 20 25 30
 cct tct ctt ggt gac cg^g gag aag agg gat aat ttg tgt ccc cag gga 385
 Pro Ser Leu Gly Asp Arg Glu Lys Arg Asp Asn Leu Cys Pro Gln Gly
 35 40 45
 aag tat gcc cat cca aag aat tcc atc tgc tgc acc aag tgc cac 433
 Lys Tyr Ala His Pro Lys Asn Ser Ile Cys Cys Thr Lys Cys His
 50 55 60
 aaa gga acc tac ttg gtg agt gac tgt cca agc cca ggg cag gaa aca 481
 Lys Gly Thr Tyr Leu Val Ser Asp Cys Pro Ser Pro Gly Gln Glu Thr
 65 70 75
 gtc tgc gag ctc tct cat aaa ggc acc ttt aca gct tcg cag aac cac 529
 Val Cys Glu Leu Ser His Lys Gly Thr Phe Ala Ser Gln Asn His
 80 85 90 95
 gtc aga cag tgt ctc agt tgc aag aca tgt cgg aaa gaa atg ttc cag 577
 Val Arg Gln Cys Leu Ser Cys Lys Thr Cys Arg Lys Glu Met Phe Gln
 100 105 110
 gtg gag att tct cct tgc aaa gct gac atg gac acc gtg tgt ggc tgc 625
 Val Glu Ile Ser Pro Cys Lys Ala Asp Met Asp Thr Val Cys Gly Cys
 115 120 125
 aag aag aac caa ttc cag cgc tac ctg agt gag acg cat ttc cag tgt 673
 Lys Lys Asn Gln Phe Gln Arg Tyr Leu Ser Glu Thr His Phe Gln Cys
 130 135 140
 gtg gac tgc agc ccc tgc ttc aat ggc acc gtg aca atc ccc tgt aag 721
 Val Asp Cys Ser Pro Cys Phe Asn Gly Thr Val Thr Ile Pro Cys Lys
 145 150 155
 gag aaa cag aac acc gtg tgt aac tgc cac gca gga ttc ttt cta agc 769
 Glu Lys Gln Asn Thr Val Cys Asn Cys His Ala Gly Phe Phe Leu Ser
 160 165 170 175
 gga aat gag tgc acc cct tgc agc cac tgc aag aaa aat cag gaa tgt 817
 Gly Asn Glu Cys Thr Pro Cys Ser His Cys Lys Lys Asn Gln Glu Cys
 180 185 190
 atg aag ctg tgc cta cct cca gtt gca aat gtc aca aac ccc cag gac 865
 Met Lys Leu Cys Leu Pro Pro Val Ala Asn Val Thr Asn Pro Gln Asp
 195 200 205
 tca ggt act gcc gtg ctg ttg cct ctg gtt atc ttc cta ggt ctt tgc 913
 Ser Gly Thr Ala Val Leu Leu Pro Leu Val Ile Phe Leu Gly Leu Cys

210	215	220	
ctt tta ttc ttt atc tgc atc agt cta ctg tgc cga tat ccc cag tgg Leu Leu Phe Phe Ile Cys Ile Ser Leu Leu Cys Arg Tyr Pro Gln Trp 225	230	235	961
agg ccc agg gtc tac tcc atc att tgt agg gat tca gct cct gtc aaa Arg Pro Arg Val Tyr Ser Ile Ile Cys Arg Asp Ser Ala Pro Val Lys 240	245	250	1009
gag gtg gag ggt gaa gga att gtt act aag ccc cta act cca gcc tct Glu Val Glu Gly Glu Gly Ile Val Thr Lys Pro Leu Thr Pro Ala Ser 260	265	270	1057
atc cca gcc ttc agc ccc aac ccc ggc ttc aac ccc act ctg ggc ttc Ile Pro Ala Phe Ser Pro Asn Pro Gly Phe Asn Pro Thr Leu Gly Phe 275	280	285	1105
agc acc acc cca cgc ttc agt cat cct gtc tcc agt acc ccc atc agc Ser Thr Thr Pro Arg Phe Ser His Pro Val Ser Ser Thr Pro Ile Ser 290	295	300	1153
ccc gtc ttc ggt cct agt aac tgg cac aac ttc gtg cca cct gta aga Pro Val Phe Gly Pro Ser Asn Trp His Asn Phe Val Pro Pro Val Arg 305	310	315	1201
gag gtg gtc cca acc cag ggt gct gac cct ctc ctc tac gga tcc ctc Glu Val Val Pro Thr Gln Gly Ala Asp Pro Leu Leu Tyr Gly Ser Leu 320	325	330	1249
aac cct gtg cca atc ccc gcc cct gtt cgg aaa tgg gaa gac gtc gtc Asn Pro Val Pro Ile Pro Ala Pro Val Arg Lys Trp Glu Asp Val Val 340	345	350	1297
gcg gcc cag cca caa cgg ctt gac act gca gac cct gcg atg ctg tat Ala Ala Gln Pro Gln Arg Leu Asp Thr Ala Asp Pro Ala Met Leu Tyr 355	360	365	1345
gct gtg gtg gat ggc gtg cct cgg aca cgc tgg aag gag ttc atg cgg Ala Val Val Asp Gly Val Pro Pro Thr Arg Trp Lys Glu Phe Met Arg 370	375	380	1393
ctc ctg ggg ctg agc gag cac gag atc gag cgg ttg gag ctg cag aac Leu Leu Gly Leu Ser Glu His Glu Ile Glu Arg Leu Glu Leu Gln Asn 385	390	395	1441
ggg cgt tgc ctc cgc gag gct cat tac agc atg ctg gaa gcc tgg cgg Gly Arg Cys Leu Arg Glu Ala His Tyr Ser Met Leu Glu Ala Trp Arg 400	405	410	1489
cgc cgc aca ccg cga cac gag gcc acg ctg gac gta gtg ggc cgc gtg Arg Arg Thr Pro Arg His Glu Ala Thr Leu Asp Val Val Gly Arg Val 420	425	430	1537
ctt tgc gac atg aac ctg cgt ggc tgc ctg gag aac atc cgc gag act Leu Cys Asp Met Asn Leu Arg Gly Cys Leu Glu Asn Ile Arg Glu Thr 435	440	445	1585

cta gaa agc cct gcc cac tcg tcc acg acc cac ctc ccg cga 1627
Leu Glu Ser Pro Ala His Ser Ser Thr Thr His Leu Pro Arg
450 455 460

taaggccaca cccccacctc aggaacggga ctcgaaggac catcctgcta gatgccctgc 1687
ttccctgtga acctcctctt tggcctcta gggggcagggc tcgatctggc aggctcgatc 1747
tggcagccac ttccctggtg ctaccgactt ggtgtacata gctttccca gctgccgagg 1807
acagcctgtg ccagccactt gtgcattggca gggaaagtgtg ccatctgctc ccagacagct 1867
gagggtgcca aaagccagga gaggtgattt tggagaaaaa gcacaatcta tctgataccc 1927
acttggatg caaggaccca aacaaagctt ctcagggct cctcagttga tttctggcc 1987
ctttcacag tagataaaac agtctttgtt ttgattatata cacactaatg gatgaacggt 2047
tgaactccct aaggttagggg caagcacaga acagtgggt ctccagctgg agcccccgac 2107
tcttgtaaat acactaaaaa tctaaaagtg aaaaaaaaaa aaaaaaaaaa aaaaaaaaaaag 2167
gaattc 2173

<210> 25
<211> 461
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: raTNF-R8

<400> 25
Met Gly Leu Pro Ile Val Pro Gly Leu Leu Leu Ser Leu Val Leu Leu
1 5 10 15

Ala Leu Leu Met Gly Ile His Pro Ser Gly Val Thr Gly Leu Val Pro
20 25 30

Ser Leu Gly Asp Arg Glu Lys Arg Asp Asn Leu Cys Pro Gln Gly Lys
35 40 45

Tyr Ala His Pro Lys Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
50 55 60

Gly Thr Tyr Leu Val Ser Asp Cys Pro Ser Pro Gly Gln Glu Thr Val
65 70 75 80

Cys Glu Leu Ser His Lys Gly Thr Phe Thr Ala Ser Gln Asn His Val
85 90 95

Arg Gln Cys Leu Ser Cys Lys Thr Cys Arg Lys Glu Met Phe Gln Val
100 105 110

Glu Ile Ser Pro Cys Lys Ala Asp Met Asp Thr Val Cys Gly Cys Lys

115	120	125
Lys Asn Gln Phe Gln Arg Tyr Leu Ser Glu Thr His Phe Gln Cys Val		
130	135	140
Asp Cys Ser Pro Cys Phe Asn Gly Thr Val Thr Ile Pro Cys Lys Glu		
145	150	155
Lys Gln Asn Thr Val Cys Asn Cys His Ala Gly Phe Phe Leu Ser Gly		
165	170	175
Asn Glu Cys Thr Pro Cys Ser His Cys Lys Lys Asn Gln Glu Cys Met		
180	185	190
Lys Leu Cys Leu Pro Pro Val Ala Asn Val Thr Asn Pro Gln Asp Ser		
195	200	205
Gly Thr Ala Val Leu Leu Pro Leu Val Ile Phe Leu Gly Leu Cys Leu		
210	215	220
Leu Phe Phe Ile Cys Ile Ser Leu Leu Cys Arg Tyr Pro Gln Trp Arg		
225	230	235
240		
Pro Arg Val Tyr Ser Ile Ile Cys Arg Asp Ser Ala Pro Val Lys Glu		
245	250	255
Val Glu Gly Glu Gly Ile Val Thr Lys Pro Leu Thr Pro Ala Ser Ile		
260	265	270
Pro Ala Phe Ser Pro Asn Pro Gly Phe Asn Pro Thr Leu Gly Phe Ser		
275	280	285
Thr Thr Pro Arg Phe Ser His Pro Val Ser Ser Thr Pro Ile Ser Pro		
290	295	300
Val Phe Gly Pro Ser Asn Trp His Asn Phe Val Pro Pro Val Arg Glu		
305	310	315
320		
Val Val Pro Thr Gln Gly Ala Asp Pro Leu Leu Tyr Gly Ser Leu Asn		
325	330	335
Pro Val Pro Ile Pro Ala Pro Val Arg Lys Trp Glu Asp Val Val Ala		
340	345	350
Ala Gln Pro Gln Arg Leu Asp Thr Ala Asp Pro Ala Met Leu Tyr Ala		
355	360	365
Val Val Asp Gly Val Pro Pro Thr Arg Trp Lys Glu Phe Met Arg Leu		
370	375	380
Leu Gly Leu Ser Glu His Glu Ile Glu Arg Leu Glu Leu Gln Asn Gly		
385	390	395
400		
Arg Cys Leu Arg Glu Ala His Tyr Ser Met Leu Glu Ala Trp Arg Arg		
405	410	415
Arg Thr Pro Arg His Glu Ala Thr Leu Asp Val Val Gly Arg Val Leu		

420

425

430

Cys Asp Met Asn Leu Arg Gly Cys Leu Glu Asn Ile Arg Glu Thr Leu
 435 440 445

Glu Ser Pro Ala His Ser Ser Thr Thr His Leu Pro Arg
 450 455 460

<210> 26
 <211> 2141
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: human TNF-R in
 lTNF-R2

<220>
 <221> CDS
 <222> (213) .. (1577)

<400> 26
 gaattctctg gactgaggct ccagttctgg cctttgggt tcaagatcac tgggaccagg 60
 ccgtgatctc tatgcccag tctcaaccct caactgtcac cccaaggcac ttgggacgac 120
 ctggacagac cgagtcccgag gaagccccag cactggcgt gcccacactgc cctgagccca 180
 katggggag tgagaggcca tagctgtctg gc atg ggc ctc tcc acc gtg cct 233
 Met Gly Leu Ser Thr Val Pro
 1 5

gac ctg ctg ctg cca ctg gtg ctc ctg gag ctg ttg gtg gga ata tac 281
 Asp Leu Leu Leu Pro Leu Val Leu Leu Glu Leu Leu Val Gly Ile Tyr
 10 15 20

ccc tca ggg gtt att gga ctg gtc cct cac cta ggg gac agg gag aag 329
 Pro Ser Gly Val Ile Gly Leu Val Pro His Leu Gly Asp Arg Glu Lys
 25 30 35

aga gat agt gtg tgt ccc caa gga aaa tat atc cac cct caa aat aat 377
 Arg Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn
 40 45 50 55

tcg att tgc tgt acc aag tgc cac aaa gga acc tac ttg tac aat gac 425
 Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp
 60 65 70

tgt cca ggc ccg ggg cag gat acg gac tgc agg gag tgt gag agc ggc 473
 Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly
 75 80 85

tcc ttc acc gct tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc 521
 Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser
 90 95 100

aaa tgc cga aag gaa atg ggt cag gtg gag atc tct tct tgc aca gtg	569
Lys Cys Arg Lys Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val	
105 110 115	
gac cgg gac acc gtg tgt ggc tgc agg aag aac cag tac cgg cat tat	617
Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr	
120 125 130 135	
tgg agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat	665
Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn	
140 145 150	
ggg acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc	713
Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr	
155 160 165	
tgc cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt	761
Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser	
170 175 180	
aac tgt aag aaa agc ctg gag tgc acg aag ttg tgc cta ccc cag att	809
Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile	
185 190 195	
gag aat gtt aag ggc act gag gac tca ggc acc aca gtg ctg ttg ccc	857
Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr Val Leu Leu Pro	
200 205 210 215	
ctg gtc att ttc ttt ggt ctt tgc ctt tta tcc ctc ctc ttc att ggt	905
Leu Val Ile Phe Phe Gly Leu Cys Leu Leu Ser Leu Leu Phe Ile Gly	
220 225 230	
tta atg tat cgc tac caa cgg tgg aag tcc aag ctc tac tcc att gtt	953
Leu Met Tyr Arg Tyr Gln Arg Trp Lys Ser Lys Leu Tyr Ser Ile Val	
235 240 245	
tgt ggg aaa tcg aca cct gaa aaa gag ggg gag ctt gaa gga act act	1001
Cys Gly Lys Ser Thr Pro Glu Lys Glu Gly Glu Leu Glu Gly Thr Thr	
250 255 260	
act aag ccc ctg gcc cca aac cca agc ttc agt ccc act cca ggc ttc	1049
Thr Lys Pro Leu Ala Pro Asn Pro Ser Phe Ser Pro Thr Pro Gly Phe	
265 270 275	
acc ccc acc ctg ggc ttc agt ccc gtg ccc agt tcc acc ttc acc tcc	1097
Thr Pro Thr Leu Gly Phe Ser Pro Val Pro Ser Ser Thr Phe Thr Ser	
280 285 290 295	
agc tcc acc tat acc ccc ggt gac tgt ccc aac ttt gcg gct ccc cgc	1145
Ser Ser Thr Tyr Thr Pro Gly Asp Cys Pro Asn Phe Ala Ala Pro Arg	
300 305 310	
aga gag gtg gca cca ccc tat cag ggg gct gac ccc atc ctt gcg aca	1193
Arg Glu Val Ala Pro Pro Tyr Gln Gly Ala Asp Pro Ile Leu Ala Thr	
315 320 325	
gcc ctc gcc tcc gac ccc atc ccc aac ccc ctt cag aag tgg gag gac	1241

Ala	Leu	Ala	Ser	Asp	Pro	Ile	Pro	Asn	Pro	Leu	Gln	Lys	Trp	Glu	Asp	
330																340
agc	gcc	cac	aag	cca	cag	agc	cta	gac	act	gat	gac	ccc	gcg	acg	ctg	1289
Ser	Ala	His	Lys	Pro	Gln	Ser	Leu	Asp	Thr	Asp	Asp	Pro	Ala	Thr	Leu	
345															355	
tac	gcc	gtg	gtg	gag	aac	gtg	ccc	ccg	ttg	cgc	tgg	aag	gaa	ttc	gtg	1337
Tyr	Ala	Val	Val	Glu	Asn	Val	Pro	Pro	Leu	Arg	Trp	Lys	Glu	Phe	Val	
360															375	
cgg	cgc	cta	ggg	ctg	agc	gac	cac	gag	atc	gat	cg	ctg	gag	ctg	cag	1385
Arg	Arg	Leu	Gly	Leu	Ser	Asp	His	Glu	Ile	Asp	Arg	Leu	Glu	Leu	Gln	
380															390	
aac	ggg	cgc	tgc	ctg	cgc	gag	gcc	acg	ctg	gag	ctg	ctg	gca	acc	tgg	1433
Asn	Gly	Arg	Cys	Leu	Arg	Glu	Ala	Gln	Tyr	Ser	Met	Leu	Ala	Thr	Trp	
395															405	
agg	cgg	cgc	acg	ccg	cgc	gag	gcc	acg	ctg	gag	ctg	ctg	gga	cgc		1481
Arg	Arg	Arg	Thr	Pro	Arg	Glu	Ala	Thr	Leu	Glu	Leu	Leu	Gly	Arg		
410															420	
gtg	ctc	cgc	gac	atg	gac	ctg	ctg	ggc	tgc	ctg	gag	gac	atc	gag	gag	1529
Val	Leu	Arg	Asp	Met	Asp	Leu	Leu	Gly	Cys	Leu	Glu	Asp	Ile	Glu	Glu	
425															435	
gcg	ctt	tgc	ggc	ccc	gcc	gcc	ctc	ccg	ccc	gcg	ccc	agt	ctt	ctc	aga	1577
Ala	Leu	Cys	Gly	Pro	Ala	Ala	Leu	Pro	Pro	Ala	Pro	Ser	Leu	Leu	Arg	
440															455	
tgaggctg	ccctgcggg	cagctctaag	gaccgtcctg	cgagatcgcc	ttccaacccc											1637
acttttttct	ggaaaggagg	ggtcctgcag	ggcaagcag	gagctagcag	ccgcctactt											1697
ggtgctaacc	cctcgatgt	catagcttt	ctcagctgcc	tgcgccgcgc	cgacagtcag											1757
cgctgtgcgc	gcggagagag	gtgcgcgt	ggctcaagag	cctgagtggg	tggttgcga											1817
ggatgaggga	cgctatgcct	catgcccgtt	ttgggtgtcc	tcaccagcaa	ggctgctcgg											1877
gggccccctgg	ttcgcccttg	agccttttc	acagtgcata	agcagtttt	tttgttttg											1937
ttttgttttg	ttttgttttt	aaatcaatca	tgttacacta	atagaaactt	ggcactcctg											1997
tgccctctgc	ctggacaagc	acatagcaag	ctgaactgtc	ctaaggcagg	ggcgagcacg											2057
gaacaatggg	gccttcagct	ggagctgtgg	acttttgac	atacactaaa	attctgaagt											2117
aaaaaaaaaa	aaaaaaaaagga	attc														2141

<210> 27
 <211> 455
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: human TNF-R in
1TNF-R2

<400> 27

Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu
1 5 10 15

Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro
20 25 30

His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys
35 40 45

Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
50 55 60

Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp
65 70 75 80

Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
85 90 95

Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val
100 105 110

Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
115 120 125

Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
130 135 140

Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
145 150 155 160

Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
165 170 175

Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
180 185 190

Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser
195 200 205

Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu
210 215 220

Leu Ser Leu Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys
225 230 235 240

Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu
245 250 255

Gly Glu Leu Glu Gly Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser
260 265 270

Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val

275 280 285

Pro Ser Ser Thr Phe Thr Ser Ser Ser Thr Tyr Thr Pro Gly Asp Cys
290 295 300

Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly
305 310 315 320

Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn
325 330 335

Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp
340 345 350

Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro
355 360 365

Leu Arg Trp Lys Glu Phe Val Arg Arg Leu Gly Leu Ser Asp His Glu
370 375 380

Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln
385 390 395 400

Tyr Ser Met Leu Ala Thr Trp Arg Arg Arg Thr Pro Arg Arg Glu Ala
405 410 415

Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly
420 425 430

Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro
435 440 445

Pro Ala Pro Ser Leu Leu Arg
450 455

<210> 28
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: N-terminal
amino acid sequence of protein purified from urine
(main sequence)

<220>
<221> UNSURE
<222> (4)
<223> identity of "Xaa" could not be determined

<400> 28
Asp Ser Val Xaa Pro Gln Gly Lys Tyr Ile His Pro Gln
1 5 10

<210> 29

<211> 9
<212> PPT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: N-terminal
amino acid sequence of protein purified from urine
(subsidiary sequence)

<220>
<221> UNSURE
<222> (7)
<223> identity of "Xaa" could not be determined

<400> 29
Leu Val Pro His Leu Gly Xaa Arg Glu
1 5

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<210> 30
<211> 151
<212> DNA
<213> Homo sapiens
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<400> 30
cagggaaaaa tattcacccct caaataattc gatttgctgt accaagtgcc acaaaggaaa 60
ctacttgtac aatgactgtc caggcccggg gcaggatacg gactgcaggg agtgtgagag 120
cqqctccttc acaqccctcaq aaaacaacaa g 151
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<210> 31
<211> 8
<212> PRT
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 31
Asp Ser Val Cys Pro Gln Gly Lys
1 5

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<210> 32
<211> 7
<212> PRT
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<220>
<221> UNSURE

<222> (1)..(2)
<223> identity of "Xaa" could not be determined

<400> 32
Xaa Xaa Leu Ser Cys Ser Lys
1 5

<210> 33
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 33
Asp Thr Val Cys Gly Cys Arg
1 5

<210> 34
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 34
Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys
1 5 10

<210> 35
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 35
Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys
1 5 10

<210> 36
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic

cleavage peptide

<220>
<221> UNSURE
<222> (6)
<223> identity of "Xaa" could not be determined

<220>
<221> UNSURE
<222> (10)...(12)
<223> identity of "Xaa" could not be determined

<400> 36
Tyr Ile His Pro Gln Xaa Asn Ser Ile Xaa Xaa Xaa Lys
1 5 10

<210> 37
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 37
Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn Asn Lys
1 5 10

<210> 38
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 38
Leu Val Pro His Leu Gly Asp Arg
1 5

<210> 39
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 39
Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg
1 5 10 15

<210> 40
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 40
Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln
1 5 10

<210> 41
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<220>
<221> UNSURE
<222> (9)...(11)
<223> identity of "Xaa" could not be determined

<400> 41
Glu Met Gly Gln Val Glu Ile Ser Xaa Xaa Xaa Val Asp
1 5 10

<210> 42
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 42
Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp
1 5 10 15

Thr Val Cys Gly
20

<210> 43
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<220>
<221> UNSURE
<222> (6)
<223> identity of "Xaa" could not be determined

<220>
<221> UNSURE
<222> (18)
<223> identity of "Xaa" could not be determined

<400> 43
Tyr Ile His Pro Gln Xaa Asn Ser Ile Cys Cys Thr Lys Cys His Lys
1 5 10 15

Gly Xaa Tyr

<210> 44
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<220>
<221> UNSURE
<222> (16)..(17)
<223> identity of "Xaa" could not be determined

<400> 44
Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Xaa
1 5 10 15

Xaa Arg

<210> 45
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 45
Leu Cys Leu Pro Gln Ile Glu Asn
1 5

<210> 46
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<220>
<221> UNSURE
<222> (7)
<223> identity of "Xaa" could not be determined

<400> 46
Gln Asn Thr Val Cys Thr Xaa His Ala Gly Phe Phe Leu Arg
1 5 10

<210> 47
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 47
Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn
1 5 10

<210> 48
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 48
Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln
1 5 10

<210> 49
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 49
Gln Gly Lys Tyr Ile His Pro
1 5

<210> 50
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization
probe

<400> 50 20
caaggtaaat atattcatcc

<210> 51
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization
probe

<400> 51 20
cagggttaagt acatccatcc

<210> 52
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization
probe

<400> 52 20
caaggtaaat atatacatcc

<210> 53
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization
probe

<400> 53 20
caaggcaaat atattcatcc

<210> 54
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization probe

<400> 54
cagggcaagt acatccaccc

20

<210> 55
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization probe

<400> 55
caaggcaaat atatacatcc

20

<210> 56
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization probe

<400> 56
caaggaaaat atattcatcc

20

<210> 57
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization probe

<400> 57
cagggaaaagt acatccaccc

20

<210> 58
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization
probe

<400> 58
caaggaaaat atatacatcc

20

<210> 59
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization
probe

<400> 59
caaggaaaat atattcatcc

20

<210> 60
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization
probe

<400> 60
cagggaaagt acatccaccc

20

<210> 61
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization
probe

<400> 61
caaggaaaat atatacatcc

20

<210> 62
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 62

Glu Cys Gly Ser Gly Ser Phe Thr Ala Ser Glu Asn Asn Lys
1 5 10

<210> 63
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 63
Glu Cys Gly Ser Gly Ser Phe Thr Ala Ser Cys Asn Asn Lys
1 5 10

<210> 64
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 64
Phe Thr Ala Ser Glu Asn Asn Lys
1 5

<210> 65
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TNF-BP tryptic
cleavage peptide

<400> 65
Phe Thr Ala Ser Cys Asn Asn Lys
1 5

<210> 66
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization
probe

<400> 66
aaatgacgga gactcttgtt gttccttaggg

30

<210> 67
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization probe

<400> 67
aagtggcgta gtctttgtt gttcctaggg 30

<210> 68
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization probe

<400> 68
aaatgtcgga gactctgtt gttcctaggg 30

<210> 69
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization probe

<400> 69
aaatgacggt cactctgtt gttcctaggg 30

<210> 70
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: hybridization probe

<400> 70
aagtggcggt ctctttgtt gttcctaggg 30

<210> 71
<211> 30
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: hybridization probe

<400> 71
aaatgtcggt cactcttgg t gttccttaggg 30

<210> 72
<211> 30
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: hybridization probe

<400> 72
aaatgacgga gaacattgtt gttccttaggg 30

<210> 73
<211> 30
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: hybridization probe

<400> 73
aagtggcgta gtactttgtt gttccttaggg 30

<210> 74
<211> 30
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: hybridization probe

<400> 74
aaatgtcgga gaacattgtt gttccttaggg 30

<210> 75
<211> 30
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: hybridization probe

<400> 75		
aaatgacggt caacattgtt gttcctaggg	30	
<210> 76		
<211> 30		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence: hybridization		
probe		
<400> 76		
aagtggcggt ctactttgtt gttcctaggg	30	
<210> 77		
<211> 30		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence: hybridization		
probe		
<400> 77		
aaatgtcggt caacattgtt gttcctaggg	30	
<210> 78		
<211> 158		
<212> DNA		
<213> Homo sapiens		
<220>		
<221> CDS		
<222> (1)..(153)		
<400> 78		
cag ggg aaa tat att cac cct caa aat aat tcg att tcg tgt acc aag	48	
Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Ser Cys Thr Lys		
1 5 10 15		
tcg cac aaa gga acc tac ttg tac aat gac tgt cca ggc ccg ggg cag	96	
Ser His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln		
20 25 30		
gat acg gac tgc agg gag tgt gag agc ggc tcc ttc aca gcc tca gaa	144	
Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu		
35 40 45		
aac aac aag gatcc	158	
Asn Asn Lys		
50		

<210> 79
<211> 51
<212> PRT
<213> Homo sapiens

<400> 79
Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Ser Cys Thr Lys
1 5 10 15
Ser His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln
20 25 30
Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu
35 40 45
Asn Asn Lys
50

<210> 80
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
EBI-1786

<400> 80
ggaattcagc ctgaatggcg aatggg 26

<210> 81
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
EBI-1729

<400> 81
cctcgagcgt tgctggcggtt tttcc 25

<210> 82
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
EBI-1733

<400> 82
ggtcgacatt gattattgac tag 23

<210> 83
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
EBI-1734

<400> 83
ggaattccct aggaatacag cgg 23

<210> 84
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: mutagenesis
primer EBI-1751

<400> 84
gtacttgaac tcgttcctg 19

<210> 85
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: mutagenesis
primer EBI-1857

<400> 85
ggcaagggca gcagccgg 18

<210> 86
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide EBI-1823

<400> 86
agttctgca ggtcgacatc gatggatcgg tacctcgagc ggccgcgaat tct 53

<210> 87
<211> 54
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
oligonucleotide EBI-1829

<400> 87

ctagagaatt cgcgccgct cgaggtaccg gatccatcga tgtcgacctg caga

54

<210> 88

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
oligonucleotide EBI-1820

<400> 88

agctctagag attcgccgccc gctcgaggta ccggatccat cgatgtcgac ctgcagaagc 60

ttg

63

<210> 89

<211> 64

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
oligonucleotide EBI-1821

<400> 89

ctagcaagct tctgcaggta gacatcgatg gatccggta ctcgagcggc cgcgaattct 60

ctag

64

<210> 90

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
EBI-1986

<400> 90

caggatccga gtctcaaccc tcaac

25

<210> 91

<211> 43

<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
EBI-1929

<400> 91
gggaattcct tatcaattct caatctgggg taggcacaac ttc

43

<210> 92
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
EBI-2452

<400> 92
cacagtcgac ttacatattgc ttctgacaca actgtgttca ctagcaacct caaacagaca 60
ccatgggcct ctccaccgtg c

81

<210> 93
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
EBI-1922

<400> 93
gaggctgcaa ttgaagc

17

<210> 94
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
EBI-2316

<400> 94
attcgtgcgg cgcctag

17

<210> 95
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

EBI-2467

<400> 95
gtcggtagca ccaagga

17

<210> 96
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: M13-40
universal primer

<400> 96
gttttcccag tcacgac

17

<210> 97
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
EBI-2112

<400> 97
gtccaaattat gtcacaccc

18